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AMENDMENTS TO THE CLAIMS

Please add or amend the claims to read as follows, and cancel without prejudice or disclaimer to resubmission in a divisional or continuation application claims indicated as cancelled:

1.-13. (Cancelled)

14. (Currently amended) A method for solving a constraint satisfaction problem (CSP) defined by a group of variables and constraints applicable to the variables, the method comprising the steps of:

- (a) choosing a first state corresponding to a first set of values of the variables;
 - (b) selecting a hop distance within a state space of the variables responsively to a random distance selection criterion;
 - (c) choosing a second state corresponding to a second set of the values of the variables, such that the second state is separated from the first state by the hop distance;
 - (d) comparing a first cost, determined by applying the constraints to the first set of the values of the variables, to a second cost, determined by applying the constraints to the second set of the values of the variables;
 - (e) if the second cost is closer than the first cost to meeting a condition indicative that the constraints are satisfied, redefining the first state to correspond to the second set of the values of the variables;
 - (f) repeating steps (b) through (e) until the second cost meets the condition, whereby the second set of the values of the variables represents a solution of the CSP~~The method according to claim 1,~~ wherein the variables are characteristic of features of an image containing visual information[[],]; and
- ~~comprising~~ (g) identifying an object in the image based on the features, responsively to the second set of the values of the variables.

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15. (Currently amended) The method according to claim [[1]] 14, wherein the variables are characteristic of a natural language input, and comprising (g) parsing the natural language, responsively to the second set of the values of the variables, so as to interpret the language.

16. (Currently amended) The method according to claim [[1]] 14, wherein the variables are characteristic of a condition, and comprising (g) determining a diagnosis of the condition responsively to the second set of the values of the variables.

17. (Currently amended) The method according to claim [[1]] 14, wherein the variables are characteristic of resources whose use is to be scheduled, and comprising (g) scheduling the use of the resources responsively to the second set of the values of the variables.

18.-30. (Cancelled)

31. (Currently amended) Apparatus for solving a constraint satisfaction problem (CSP) defined by a group of variables and constraints applicable to the variables, the apparatus comprising a CSP processor, which is arranged to solve the CSP by the steps of:

(a) choosing a first state corresponding to a first set of values of the variables;

(b) selecting a hop distance within a state space of the variables responsively to a random distance selection criterion;

(c) choosing a second state corresponding to a second set of the values of the variables, such that the second state is separated from the first state by the hop distance;

(d) comparing a first cost, determined by applying the constraints to the first set of the values of the variables, to a second cost, determined by applying the constraints to the second set of the values of the variables;

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(e) if the second cost is closer than the first cost to meeting a condition indicative that the constraints are satisfied, redefining the first state to correspond to the second set of the values of the variables; and

(f) repeating steps (b) through (e) until the second cost meets the condition, whereby the second set of the values of the variables represents a solution of the CSP ~~The apparatus according to claim 18,~~ wherein the variables are characteristic of features of an image containing visual information, and wherein the processor is arranged to identify, responsively to the second set of the values of the of the variables, an object in the image based on the features.

32. (Currently amended) The apparatus according to claim [[18]] 31, wherein the variables are characteristic of a natural language input, and wherein the processor is arranged to parse the natural language, responsively to the second set of the values of the of the variables, so as to interpret the language.

33. (Currently amended) The apparatus according to claim [[18]] 31, wherein the variables are characteristic of a condition, and wherein the processor is arranged to determine, responsively to the second set of the values of the of the variables, a diagnosis of the condition.

34. (Currently amended) The apparatus according to claim [[18]] 31, wherein the variables are characteristic of resources whose use is to be scheduled, and wherein the processor is arranged to schedule the use of the resources responsively to the second set of the values of the of the variables.

35.-47. (Cancelled)

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48. (Currently amended) A computer software product for solving a constraint satisfaction problem (CSP) defined by a group of variables and constraints applicable to the variables, the product comprising a computer-readable medium, in which program instructions are stored, which instructions, when read by a computer, cause the computer to solve the CSP by the steps of:

(a) choosing a first state corresponding to a first set of values of the variables;

(b) selecting a hop distance within a state space of the variables responsively to a random distance selection criterion;

(c) choosing a second state corresponding to a second set of the values of the variables, such that the second state is separated from the first state by the hop distance;

(d) comparing a first cost, determined by applying the constraints to the first set of the values of the variables, to a second cost, determined by applying the constraints to the second set of the values of the variables;

(e) if the second cost is closer than the first cost to meeting a condition indicative that the constraints are satisfied, redefining the first state to correspond to the second set of the values of the variables; and

(f) repeating steps (b) through (e) until the second cost meets the condition, whereby the second set of the values of the variables represents a solution of the CSP ~~The product according to claim 35,~~ wherein the variables are characteristic of features of an image containing visual information, and wherein the instructions cause the computer to identify, responsively to the second set of the values of the of the variables, an object in the image based on the features.

49. (Currently amended) The product according to claim ~~[[35]]~~ 48, wherein the variables are characteristic of a natural language input, and wherein the instructions cause the computer to parse the natural language, responsively to the second set of the values of the of the variables, so as to interpret the language.

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50. (Currently amended) The product according to claim [[35]] 48, wherein the variables are characteristic of a condition, and wherein the instructions cause the computer to determine, responsively to the second set of the values of the of the variables, a diagnosis of the condition.

51. (Currently amended) The product according to claim [[35]] 48, wherein the variables are characteristic of resources whose use is to be scheduled, and wherein the instructions cause the computer to schedule the use of the resources responsively to the second set of the values of the of the variables.